

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

September 23, 2011

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

**APPLICATION FOR A DLNR DAM SAFETY CONSTRUCTION/ALTERATION PERMIT
PERMIT NO. 57 – KEHENA RESERVOIR (HA-0052)
DAM ALTERATION/REMOVAL, ISLAND OF HAWAII**

The Engineering Division hereby submits an application for your approval and authorization for the Chairperson and Department for the removal of Kehena Reservoir from our state dam inventory, pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

APPLICANT:

Keoki Wood
Parker Ranch
67-1435 Mamalahoa Highway
Kamuela, Hawaii 96743

LANDOWNER:

Same as applicant

SUMMARY OF REQUEST:

The owner submitted an "Application for a DLNR Dam Safety Construction/Alteration Permit" to request the removal of this structure from State jurisdiction. See Exhibit 1

LOCATION: Haulaula, Kohala Hawaii, Hawaii, TMK: (3) 5-8-002:010. See Exhibit 2.

BACKGROUND:

The Kehena Reservoir was used as a source of irrigation for Parker Ranch. There are no documents available regarding the history of this dam. The dam had failed through a breach in the embankment sometime between 2003 and 2004, probably due to overtopping during a high flow event. It was not repaired and it no longer retains water under normal conditions.

DESCRIPTION:

The Kehena Reservoir Dam is approximately 16 ft. high, 1,800 ft. long. DLNR Dam Safety engineers inspected this dam on November 30, 2010 and made a measurement of the breached area. The breached area of the embankment has a bottom width of 8 ft. and a top width of 70 ft. with a side slope of approximately 2H:1V.

FINDINGS AND REMARKS:

In accordance with HRS 179D-3, dam means "any artificial barrier, including appurtenant works that impounds or diverts water and is twenty-five (25) feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier, or from the lowest elevation of the outside limit of the barrier if it is not across a stream channel or watercourse to a

maximum water storage elevation, and has an impounding capacity at maximum water storage elevation of fifty (50) acre-feet or more.

The DLNR engineers conducted a hydrology and hydraulic study of this reservoir and the results show that during the 100-year storm event, the breached area should adequately pass the storm flow with approximately 16 ac-ft of water being retained in the reservoir at a maximum water depth of 2½ feet. A Probable Maximum Flood (PMF) study for this structure indicated that the maximum water retained by the existing breached facility does not exceed 37 ac-ft. These results demonstrate that this structure does not fall within the definition of a dam as defined in HRS 179D-3.

CHAPTER 343 ANALYSIS – ENVIRONMENTAL ASSESSMENT:


There are no state funds involved in this request, the structure is located on private land and is not in a conservation district. Therefore, an environmental assessment is not required. See Exhibit 4.

RECOMMENDATION:

That the Board:

1. Authorize the Department to remove this dam from dam safety regulatory oversight and the requirements of Hawaii Revised Statutes Chapter 179D; and
2. Authorize the Department to list this structure in the unregulated dam database.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:



WILLIAM J. AILA, JR.
Chairperson

- Exhibit(s):
- 1 Permit Application
 - 2 Location Map and Picture of location
 - 3 Breach section drawing
 - 4 Chapter 343 Analysis

State of Hawaii
BOARD OF LAND AND NATURAL RESOURCES
Department of Land and Natural Resources
Engineering Division

APPLICATION FOR APPROVAL OF PLANS AND SPECIFICATIONS FOR CONSTRUCTION,
ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF A DAM

Date of Application: December 10, 2010

Applicant: Parker Ranch

Contact Name: Keoki Wood

Firm / Company: Parker Ranch

Mailing Address 67-1435 Mamalahoa Highway, Kamuela, Hawaii 96743

Telephone: Fax: Email: kwood@parkerranch.com

The Applicant hereby applies to the Board of Land and Natural Resources for the approval of the attached plans and specification for the Removal from jurisdiction (construction, etc.) in accordance with Chapter 179D HRS (as amended by Act 262, SLH 2006), and subject to the provisions, conditions, and limitations of the current Hawaii Administrative Rules and various DLNR dam safety guidelines.

Accompanying this application are:

(please check)

1. Filing fee (\$25.00) (Waived for government agencies)
2. Three (3) copies of the Detailed Cost Estimate
3. Three (3) copies of the Final Design Report
4. Three (3) copies of the Plans
5. Three (3) copies of the Specifications
6. Proposed Construction Schedule
7. Supporting documents:

x

NAME OF STRUCTURE: Kehena Reservoir

DAM OR RESERVOIR LOCATION: Haulaula, Kohala - Big Island of Hawaii

Island: Hawaii

Tax Map Key: (3) 5-8-002:010

Attach USGS topographic map (scale 1" = 2000') and property tax map (showing location access to site, proposed work)

State Land Use District: x Agriculture Urban Rural Conservation

BRIEF DESCRIPTION OF WORK TO BE PERFORMED

None- Requesting Removal of Dam from listing

EXHIBIT 1

TECHNICAL INFORMATION:

DLNR-Dam Safety-Sheet 2

1. Drainage Area _____ sq. miles or 32 acres
2. Classification of Dam Small
3. Type of Structure Earthen
4. Elevation-Area-Capacity Data:
- | | Elevation | Surface Area
(acres) | Total Storage
Volume (acre-feet) |
|--------------------|-------------|-------------------------|-------------------------------------|
| Natural Streambed | <u>2460</u> | <u>0</u> | <u>0</u> |
| Primary Spillway | <u>n/a</u> | | |
| Secondary Spillway | <u>n/a</u> | | |
| Top of Dam | <u>2476</u> | | |
| Design Water Level | <u>2460</u> | <u>0</u> | <u>0</u> |
| Invert of Drain | <u>2460</u> | <u>0</u> | <u>0</u> |
5. Spillway Details (Type, Dimensions, Material)
Primary: n/a
Secondary: n/a
6. Purpose of Structure Agriculture - Livestock water supply
(water supply, irrigation, recreation, real estate development, etc.)
7. Attach rainfall and stream flow records, and flood-flow records and estimates (as accurately as may be readily obtained)

ADDITIONAL INFORMATION

1. Primary Owner Contact (if different from applicant) Nahua Guilloz
Owner Company or Entity: Richard Smart c/o Parker Ranch Foundation Trust
Mailing Address 67-1435 Mamalahoa Hwy. Kamuela, HI 96743
Telephone: 885-2323 Fax: 887-1158 Email: nguilloz@parkerranch.com
2. Registered Hawaii Professional Engineer who prepared the plan n/a
Mailing Address _____
Registration No. _____
Telephone: _____ Fax: _____ Email: _____
3. Registered Professional Engineer to be responsible for inspection during construction n/a
4. Contractor (If known) n/a
Mailing Address _____
Telephone: _____ Fax: _____ Email: _____
5. List all other permits applications submitted to other governmental agencies:
n/a
6. Anticipated effect of proposed structure on natural environment: None

EXHIBIT 1

7. List all other parties that have ownership or other interest on the parcels where the dam and reservoir are located and identify their interest in the property. The Owners herein listed below concur with the work proposed within this application by the applicant and by his/her signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190, Hawaii Administrative Rules. (Submit additional copies of this sheet should there be more owners)

_____ (Signature of Owner)	<u>67-1435 Mamalahoa Hwy/ 100% interest</u> (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)
_____ (Signature of Owner)	_____ (Address / Interest in Dam or Reservoir)

I, Parker Ranch -Keoki Wood, the applicant, hereby certify that the information herein is true and factual to the best of my knowledge. Signing below indicates that the applicant understands that, if the permit requested is granted by the Board of Land and Natural Resources, the proposed work is to be initiated and completed within two (2) years of the approval date, unless specifically permitted in the approved permit terms and conditions.

(Signature of Applicant & Title)

Date: 12/8/10

EXHIBIT 1

KEHENA RESERVOIR (HA-0052) BREACHED SECTION



Kehena Reservoir (HA-0052)

Breach Measurement - November 30, 2010

Station (Feet)	Veritcal (Inches)	Offset (Inches)	Total (Inches)	Total (Feet)
0	0	0	0	0.00
3	24	14	38	3.17
5	31	14	45	3.75
8	36	14	50	4.17
12	53	14	67	5.58
16	71	14	85	7.08
20	90	14	104	8.67
24	107	14	121	10.08
28.3	140	14	154	12.83
32	143	14	157	13.08
37	158	14	172	14.33
42.8	154	14	168	14.00
47	142	14	156	13.00
50	139	14	153	12.75
53	125	14	139	11.58
56	110	14	124	10.33
59	87	14	101	8.42
62	73	14	87	7.25
64	65	14	79	6.58
66	50	14	64	5.33
67	38	14	52	4.33
69	0	0	0	0.00

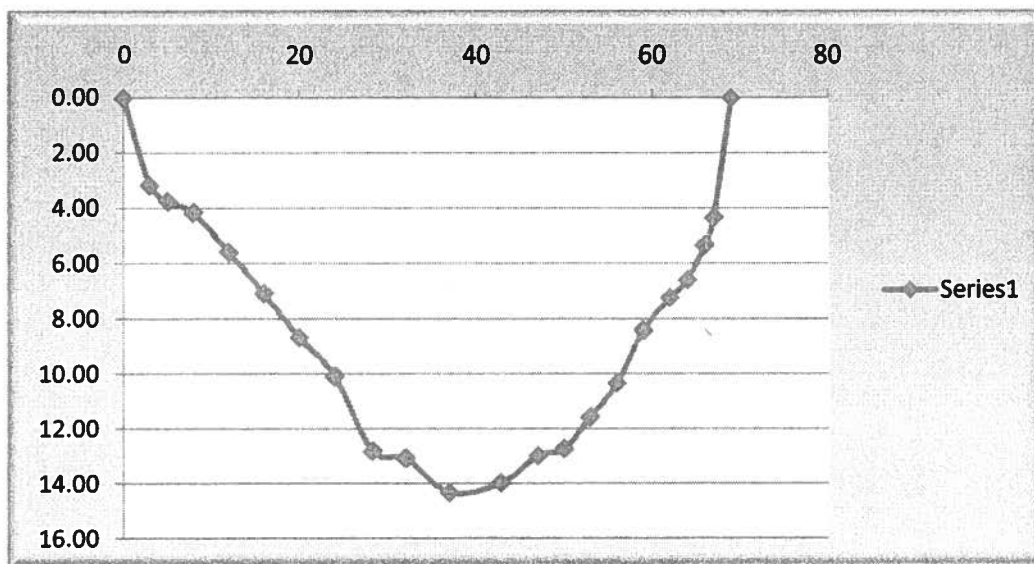
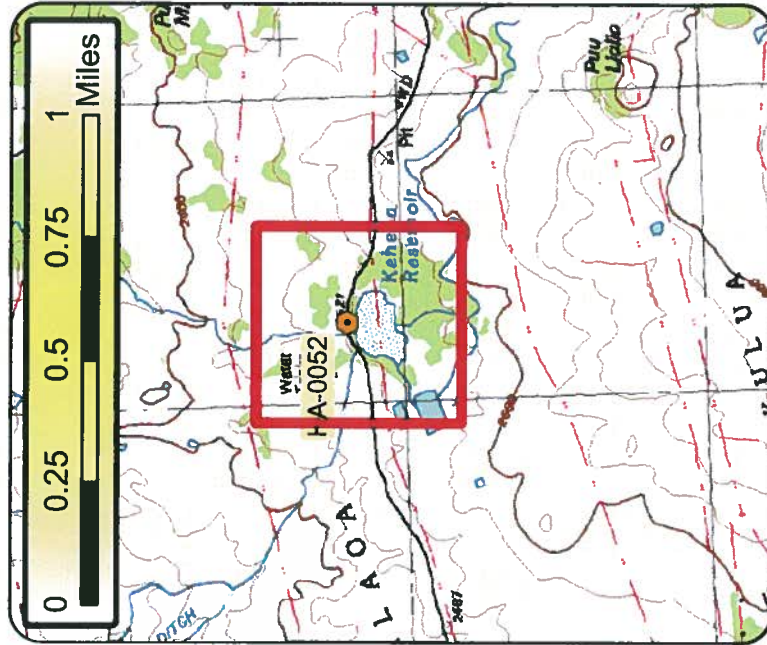


EXHIBIT 3



Kehena Reservoir (HA-0052)



EXHIBIT 2

CHAPTER 343 ANALYSIS

Project Name: Kehena Reservoir (HA-0027) – Dam removal
Dam Safety Construction/Alteration Permit No. 57
Reviewer: Jimmy Leung Date of Review: August 4, 2011

TRIGGERS (HRS §343-5(a))

Is there an "action" that triggers the need for an EA?

Action

An "action" is a program or project:

- ☐ Initiated by an agency
☒ Initiated by an "applicant"
Any person who, pursuant to statute, ordinance, or rule, officially requests "approval" for a proposed action (discretionary consent required from an agency prior to actual implementation of an action, distinguished from a ministerial consent)
☒ HRS 179D Statute
☐ Ordinance
☐ Rule

Triggers

- | Yes | No | |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use of state or county lands or funds |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use of conservation district lands |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use within shoreline setback area |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use of historic site designated on the National or Hawaii registers |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use of land in the Waikiki Special District |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Amendment to county general plan which would result in designations other than agriculture, conservation, or preservation unless initiated by a county |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Reclassification of conservation lands by the Land Use Commission |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction or modification of helicopter facilities that may affect conservation district lands, a shoreline setback area, or a historic site |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Wastewater facilities, waste-to-energy facility, landfill, oil refinery, or power-generating facility |

Triggers summary:

Is there a trigger? Yes ☐ No ☒

If Yes, Go to Exemptions

If No, Environmental Assessment is NOT required. Go to Summary.

EXEMPTIONS

Two sources of exemptions: exemption lists or exemptions contained in HAR §11-200-8(a)

- Exemption Lists
☐ Division exemption lists
☐ Department-wide exemption list
Explain (which exemption list, which exemption, how it applies):

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2. HAR §11-200-8(a) exemptions

_____ Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving *negligible or no expansion or change of use* beyond that previously existing

_____ Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have *substantially the same purpose, capacity, density, height, and dimensions* as the structure replaced

_____ Construction and location of a single, *new, small facilities* or structures and the alteration and modification of the same and installation of new, small, equipment and facilities and the alteration and modification of same, including, but not limited to:

- (a) *Single family residences less than 3,500 square feet* not in conjunction with the building of two or more such units;
- (b) Multi-unit structures designed for *not more than four dwelling units* if not in conjunction with the building of two or more such structures;
- (c) Stores, offices, and restaurants designed for total occupant load of *twenty persons or less* per structure, if not in conjunction with the building of two or more such structures; and
- (d) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions *to serve such structures* or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements

_____ *Minor alterations* in the conditions of land, water, or vegetation

_____ Basic data collection, research, experimental management, and resource evaluation activities that *do not result in a serious or major disturbance* to an environmental resource

_____ Construction or placement of *minor structures accessory* to existing facilities

_____ *Interior alterations* involving things such as partitions, plumbing, and electrical conveyances

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- _____ Demolition of structures, *except* those structures located on any *historic site* as designated on the National or Hawaii registers
- _____ Zoning variances *except shoreline* set-back variances
- _____ Continuing administrative activities including, but not limited to purchase of supplies and personnel related actions; and
- _____ Acquisition of land and existing structures, including single or multi-unit dwelling units, for the provision of *affordable housing*, involving *no material change of use* beyond that previously existing, and for which the *legislature has appropriated* or otherwise authorized *funding*

Explain (how the exemption indicated above applies):

Exemptions summary:

Does the Project qualify for an exemption? Yes _____ No _____

If Yes, Exemption noted above, No Environmental Assessment required

If No, Project does not qualify for exemption and requires an Environmental Assessment

CUMULATIVE IMPACT

Exemptions are inapplicable when the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.

SUMMARY

Is Environmental Assessment required?

Yes _____
No X